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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/668, 952 09/22/00 HORDEN

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TM02/0626

EXAMINER

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ART UNIT	PAPER NUMBER
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2181

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DATE MAILED:

06/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/668,952	Applicant(s) HORDEN ET AL.
	Examiner Rupal D. Dharia	Art Unit 2181

-- The MAILING DATE of this communication app ears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 September 2000 .

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 1-6 is/are allowed.

6) Claim(s) 7-21 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 22 September 2000 is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

15) Notice of References Cited (PTO-892) EXAMINER
16) Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
18) Interview Summary (PTO-413) Paper No(s). _____.
19) Notice of Informal Patent Application (PTO-152)
20) Other: _____

DETAILED ACTION

Drawings

1. New formal drawings are required in this application because the office no longer transfers formal drawings from the parent case. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the Patent and Trademark Office no longer prepares new drawings.

Oath/Declaration

2. The reissue oath/declaration filed with this application is defective because it fails to contain a statement that all errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without any deceptive intention on the part of the applicant. See 37 CFR 1.175 and MPEP § 1414.

3. Claims 1-21 are rejected as being based upon a defective reissue oath/declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the claims is set forth in the discussion above in this Office action.

Reissue Applications

4. This application is objected to under 37 CFR 1.172(a) as the assignee has not established its ownership interest in the patent for which reissue is being requested. An assignee must

establish its ownership interest in order to support the consent to a reissue application required by 37 CFR 1.172(a). The assignee's ownership interest is established by:

- (a) filing in the reissue application evidence of a chain of title from the original owner to the assignee, or
- (b) specifying in the record of the reissue application where such evidence is recorded in the Office (e.g., reel and frame number, etc.).

The submission with respect to (a) and (b) to establish ownership must be signed by a party authorized to act on behalf of the assignee. See MPEP § 1410.01.

An appropriate paper satisfying the requirements of 37 CFR 3.73 must be submitted in reply to this Office action.

5. The original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

6. The Request for Abstract of Title filed with the reissue application is not necessary.

Claim Rejections - 35 USC § 112

7. Claims 12-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no support for an instruction mix in the specification.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 12-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Beard (5,627,412).

a. As per claim 12, Beard teaches a dynamically switchable power supply for an electronic system based upon fluctuating demand for operational power (Abstract).

Beard teaches determining a frequency at which the CPU can operate based upon the an applications demand; determines a voltage potential level corresponding to the frequency; and provides the frequency and voltage potential levels to the CPU (Fig. 1; col. 3, line 25 through col. 4, line 23).

b. As per claim 13, Beard discloses the claimed invention as described above and furthermore, Beard teaches changing the frequency and voltage level in response to a change in the application mix (col. 4, lines 1-23).

c. As per claim 14, Beard discloses the claimed invention as described above and furthermore, Beard teaches adjusting the voltage potential level based upon the application mix executed by the processor (col. 4, lines 1-23).

- d. As per claim 15, Beard discloses the claimed invention as described above and furthermore, Beard teaches determining an operational frequency based upon the application mix executed by the processor (col. 4, lines 1-23).
- e. As per claim 16, Beard discloses the claimed invention as described above and furthermore, Beard teaches adjusting the operational frequency after adjusting the voltage potential level.
- f. As per claim 17, Beard teaches a dynamically switchable power supply for an electronic system based upon fluctuating demand for operational power (Abstract). Beard teaches adjusting a voltage potential level based upon an application mix in the CPU (Fig. 1; col. 3, line 25 through col. 4, line 23).
- g. As per claim 18, Beard discloses the claimed invention as described above and furthermore, Beard teaches determining an operational frequency based upon the application mix executed by the processor (col. 4, lines 1-23).
- h. As per claim 19, Beard discloses the claimed invention as described above and furthermore, Beard teaches executing the application mix at peak performance (Abstract; col. 4, lines 15-23).

Claim Rejections - 35 USC § 103

- 10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 7-11, 20, and 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard (5,627,412).

i. As per claims 7, 20, and 21 Beard teaches a dynamically switchable power supply for an electronic system based upon fluctuating demand for operational power (Abstract). Beard teaches providing at least two voltage potential levels (Fig. 1; col. 3, lines 8-24); and the CPU adjusts the voltage potential level depending upon the operational load of the CPU (col. 4, lines 1-23). However, Beard does not explicitly teach a static random access memory (SRAM) coupled to the processor. Official notice is taken in that both the concept and advantages of using a SRAM for storing instructions are well known and expected in the art of memories. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a SRAM in the system of Beard to provide a fast way to store data and retrieve the data as needed by the CPU.

j. As per claim 8, Beard discloses the claimed invention as described above and furthermore, Beard teaches providing an idle voltage potential level and a peak voltage level (col. 3, lines 8-24; col. 4, lines 1-23).

k. As per claims 9 and 10, Beard discloses the claimed invention as described above. However, Beard does not explicitly teach a state machine for controlling the voltages. Official notice is taken in that both the concept and advantages of a state machine (controller) for controlling voltages are well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a state machine for controlling voltages in the system of Beard to perform the

voltage control tasks outside the CPU to lessen the load of the CPU and save power required by the CPU for operation.

1. As per claim 11, Beard discloses the claimed invention as described above and furthermore, Beard teaches a clock signal generator to provide a clock signal of at least two frequencies (Fig. 1; col. 3, lines 45-62).

Allowable Subject Matter

12. Claims 1-6 are allowed.
13. The following is a statement of reasons for the indication of allowable subject matter: Prior art does not teach all of the limitations of the independent claims in combination with other elements. Specifically, prior art does not teach a system and method for an operating system monitoring the application mix executing in a processor and determining a required frequency and a minimum voltage at which the processor core can operate the required frequency. The operating system directs a state machine coordinating voltage and clock frequency to enter a state in which the required clock frequency is supplied by clock signal generator and the minimum voltage is supplied by the voltage generator. Furthermore, prior art does not teach a processor core and pad ring in which the processor core operates at a minimum supported voltage independent of the voltage required by the pad ring.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rupal D. Dharia whose telephone number is (703) 305-4003. The examiner can normally be reached on M-F 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoleil can be reached on (703) 305-9713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6296 for regular communications and (703) 308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3600.



Rupal D. Dharia
Primary Patent Examiner
Art Unit 2181

RDD
June 20, 2001